HANDBOOK OF PHONOLOGICAL DATA FROM A SAMPLE OF THE WORLD'S LANGUAGES

A Report of the Stanford Phonology Archive

Compiled and edited by

John H. Crothers
James P. Lorentz
Donald A. Sherman
Marilyn M. Vihman

© 1979 by The Board of Trustees of the Leland Stanford Junior University
All rights reserved
Printed in the United States of America

100 Ewe

100 01 p-aspirated[01] [02]
(loan,limited)

100 02 b

100 03 t-laminal-aspirated[02] [04]
[t] [60]

100 04 d-laminal[03] [04]
[d] [60]

100 05 k-aspirated[02]

100 06 g

100 07 k/p

100 08 g/b

100 09 t/s-laminal[02] [04]
[t/s] [60]
[t/s-hacek] [05]
(free)

100 10 d/z-laminal[04]
[d/z] [60]
[d/z-hacek] [05]
(free)

100 11 phi

100 12 beta

100 13 f[06]

100 14 v[06]

100 15 s
[s-hacek] [07]
(free)

100 Ewe

16 z
[z-hacek] [07]
(free)

17 pharyngeal-voiceless[08]

18 pharyngeal-voice[08]

19 m

20 n

21 n-palatal

22 eng

23 l
[l-nasalized] [62]

24 r-flap[09]
[d-retroflex] [03] [61]

25 m-syllabic[14]

26 eng-syllabic[14]

51 i
[iota] [63]
[iota-nasalized-weak] [63]

52 i-nasalized

53 e[11]

54 e-nasalized[10] [11]

100 Ewe

55 epsilon[11]

56 epsilon-nasalized[11]

57 a

58 a-nasalized

59 u
[upsilon] [63]
[upsilon-nasalized-weak] [63]

60 u-nasalized

61 o

62 o-nasalized[10]

63 o-open

64 o-open-nasalized

65 yod

66 w
[yod-trema] [13] [64]

80 high

81 mid[15]
(surface)

82 low

100 $a Ewe $b Kpando (Stahlke) $b Anglo & Inland dialects (Ansre & Berry) $d Kwa $e Togo, Dahomey, Ghana $f 1.7 million $g William Foley $g Jim Lorentz (review) $g John Crothers (editor)

100 $a Stahlke, Herbert $b 1971 $c Topics in Ewe phonology $f (UCLA Dissertation) $q informants

100 $a Berry, Jack $b 1951 $c The pronunciation of Ewe $d Cambridge: Heffer $q informant

100 $a Ansre, Gilbert $b 1961 $c The tonal structure of Ewe $f (Hartford Studies in Linguistics, no.1)

100 $a Ladefoged, Peter $b 1964 $c A phonetic study of West African languages $d Cambridge, Eng.: Cambridge University Press

100 $a **CONTOUR TONES** $A Both falling and rising tones occur on both long vowels and diphthongs. Most examples are bimorphemic. The rules for realization of the low portion of such tones seem to treat such tones as units. For some possible examples of falling tone on short vowels see Stahlke, p.136f.

100 $a **LONG VOWELS** $A Long versions of all the vowels, oral and nasal, occur phonetically. Berry and Ansre regard them as phonemic, Stahlke treats them as sequences. The latter analysis is followed here because (1) a large number of long vowels are bimorphemic, with identical vowels at morpheme boundary, or non-identical vowels assimilating at morpheme boundary (Stahlke, chapter 3); (2) each mora of a long vowel or diphthong behaves tonally exactly like a short vowel. Long vowels occur phonetically as half-long in certain environments, given variously as: word finally in noun and verb stems (Stahlke, p.45-6), in monosyllabic nouns with [mid] tone (actually [mid] plus [high], according to Ansre (p.83, note 5)) and in (other) syllables with tone movement. (Berry, p.7) All of Ansre's examples seem to be noun or verb stems containing a

sequence of different tones, rising or falling. (p.8)

100 $a **NASALIZED-WEAK VOWELS (NON-DISTINCTIVE)** $A Vowels are "partially" or "slightly" nasalized "in the neighborhood of nasal consonants." (Berry, p.6) Without specifying the degree, Ansre (p.9) remarks that "all vowels which occur after nasal consonants tend to be nasalized."

100 $a **STRESS** $A Not discussed in the sources.

100 $a **SYLLABLE** $A (C)(C)V(V) $A Word final nasals do occur, but seem always to be syllabic. Also "eng" occurs word initially before /d-laminal, k, g/, but this seems always to be /eng-syllabic/. (Ansre, p.14) $A initial CC: C + liquid

100 $a **TONE** $A domain of tone: mora

100 01 $A "/p-aspirated/ occurs chiefly in loan words and is statistically rare." (Berry, p.10) Ansre remarks that "/p-aspirated/ seems to be a borrowed phoneme from Twi. Most words in which it occurs are loan words." (p.12) Stahlke agrees; however he asserts that no good evidence exists that native speakers regard /p-aspirated/ as a foreign sound." (p.10)

100 02 $A "The voiceless plosives 'p, t, k' are aspirated. The aspiration is more noticeable before back vowels; before front [vowels] it is very slight, particularly with 't' and 'k.'" (Berry, p.10) Berry does not comment on aspiration of the affricates.

100 03 $A /d-laminal/ is articulated with the blade of the tongue against the teeth and alveolar ridge, whereas [d-retroflex] is articulated with the tip of the tongue against the alveolar ridge (usually, but not always, the posterior part). (Ladefoged, p.20) For the latter sound Berry notes "slight grooving" of the tongue blade, and "slight affrication;" he also notes that it is less tense than /d-laminal/. (p.11)

100 04 $A Berry (p.10, 12) and Ansre (p.12) classify /t-laminal-aspirated, d-laminal, t/s-laminal, d/z-laminal/ as dentals. Stahlke (p.11-12) calls them "basically lamino-dental." (p.12)

100 05 $A [t/s-hacek] and [d/z-hacek] are noted as occurring in Ewe by Ansre, Berry, and Ladefoged. Ansre says that they are (free) variants of /t/s-laminal/ and /d/z-laminal/, respectively. (p.12) Berry and Ladefoged indicate a contrast between the denti-alveolar and the palatoalveolar affricates before /o/; however, since the palatoalveolar affricates are not frequent before vowels other than /i/, this contrast is limited at best. It is apparent from Berry's discussion (p.14-15) that [t/s-hacek] and [d/z-hacek] are or were (depending on the dialect) just variants of /t/s-laminal/ and /d/z-laminal/, the palatoalveolar affricates occurring before /i/ or (orthographic) "y" + vowel, the denti-alveolar affricates occurring elsewhere.

100 06 $A Ladefoged (p.25) says that "in the labiodental not only is the lower lip drawn back so that (in most cases) it actually touches the upper front teeth, but also the upper lip is actively raised up from its rest position."

100 07 $A Ansre gives [s-hacek] and [z-hacek] as "dialect variants" of /s/ and /z/ respectively. (p.12) Berry gives them as allophones of /s/ and /z/ occurring before /i/, but adds that "[s-hacek] and [z-hacek] are also found in a few words before other vowels." (p.15)

100 08 $A There is disagreement between sources on the back fricatives. Ansre (p.11) classifies them as (voiced and voiceless) velar fricatives. Ladefoged gives corresponding voiceless glottal and velar fricatives. (p.53) Berry (p.15) gives a voiced pharyngeal fricative and a voiceless velar fricative but adds, with regard to the latter that "alternatively, it might be considered an 'h' with more than normal friction. There is relatively little scrape, particularly before back vowels." Stahlke (p.27ff) describes them as pharyngeals although, "produced by a much slighter constriction than the highly distinctive pharyngeals of Arabic." His Kpando speaking "informant consistently rejected velar or glottal substitutes." (p.40n) He also notes that the quality of vowels following these fricatives is affected in a way that is typical of vowels with a retracted tongue root. (p.29)

100 09 $A Ladefoged (p.29) says that "r" varies between a tap and an approximant. Berry (1951) says that "'r' is usually a voiced alveolar fricative." The others give more general descriptions. /r-flap/ is generally in complementary distribution with /l/, /r-flap/ occurring after denti-alveolar and palatal consonants, and /l/ elsewhere. However, exceptions to this rule are noted by Stahlke (p.39), and examples in Ladefoged (1964, p.53) show "r" occurring after "p," contrasting with "l" after "b." Based on this "r" has been usually analyzed as an allophone of /l/. However, "r" is also in (complete) complementary distribution with [d-retroflex]. [d-retroflex] occurs initially and intervocalically, "r" occurs only after consonants. Stahlke (p.11-18) gives a number of arguments for grouping "r" and [d-retroflex] as allophones of the same phoneme. In several numerical forms "r" alternates with [d-retroflex], the stop occurring intervocalically, and "r" occurring after a consonant upon vowel deletion. In addition, "r" varies freely with [d-retroflex] in intervocalic position in these forms. Stahlke sets up /r-flap/ with [d-retroflex] as allophone, and this analysis is followed here.

100 10 $A Higher-mid nasalized vowels are not found in every dialect. In every dialect that Ansre

studied, no higher-mid nasalized vowels occur. Berry says that all vowels except [e] occur nasalized. Stahlke lists all vowels with nasalized counterparts.

100 11 $A The distribution of non-high front vowels differs markedly between dialects, based on the sources consulted. With regard to Kpando, Stahlke comments: "In most cases, where other dialects have /e/, Kpando has /epsilon/." (p.69) Stahlke analyzes all instances of [epsilon] in Kpando as derived from underlying /e/ by a variety of rules. In the Anglo dialect studied by Berry /e/ occurs, but /epsilon/ is absent. However, Berry gives a vowel /schwa/ (p.3-5) which corresponds sometimes to /e/, sometimes to /epsilon/ in other dialects. Ansre (p.81-82, fn.1) considers this /schwa/ reported by Berry to be "either in the ideolect of his informant or a specifically Anglo feature." Here we code /e/ and /epsilon/ as contrasting phonemes.

100 13 $A Berry regards [yod-tremal as a voiced velar fricative, although "the friction is slight and the whole articulation is weak." (p.15) Ansre classifies it as a semivowel and Stahlke as a velar sonorant. Ansre gives three reasons for classifying it as a semivowel: (1) complementary distribution with [w]; (2) other dialects have [w] where the dialect described by Ansre has [yod-trema]; (3) it behaves tonally like a "resonant." (p.12)

100 14 $A "/m/ and /eng/ sometimes function as sonants, in that they may bear tone." (Ansre, p.12) /eng-syllabic/ "occurs as a nasal prefix. It may then be syllabic and have its own tone." (Berry, p.14) Examples of /m-syllabic/ show it occurring word finally after a vowel.

100 15 $A Lexically there are only two tones, /high/ and low/, the latter varying between [mid] and [low]. Conditions for the alternation of [mid] and [low] are partly phonological, partly morphological, so that the [mid] tone has the function of marking certain types of constructions, in particular those containing nouns. Preliminary rules for the alternation are given by Ansre, and extensively discussed and revised by Stahlke. Stahlke's conclusion, in outline, is that [low] occurs sentence finally and wherever there is a sequence of basic /low/ tones, and [mid] thus must occur before a /high/ tone, when not preceded by /low/. [mid] also occurs exceptionally in noun stems which begin with an obstruent, when these occur in a non-final position that would normally require [low] tone for other word classes. (p.178ff) A notable distributional feature of tones is that noun stems beginning with voiced obstruents can only have /low/ tone, and this is invariably [low], not subject to the alternation with [mid]. (Ansre, p.27)

100 60 $A /t-laminal-aspirated, d-laminal, t/s-laminal, d/z-laminal/ are retracted to apico-alveolar articulation before /r-flap/. (Stahlke, p.12) The articulation is "distinctly apico-alveolar, or even post-alveolar. This change is not quite so noticeable in /s/, /z/, and /n/.... The auditory effect..., especially with [t] and [d], is very much like the phonetic affricate which results from 'tr' and 'dr' sequences in English."

100 61 $A /r-flap/ is realized as [d-retroflex] word initially and intervocalically. (Stahlke, p.16)

100 62 $A /l/ is nasalized before nasalized vowels. (Stahlke, p.19-21; Berry, p.14)

100 63 $A High vowels become lower-high [iota, upsilon] after pharyngeals and before final consonants. (Stahlke, p.29, 55) (cf. Berry, p.4) One instance of [upsilon] occurs as a free variant of /u/ in neither environment. Stahlke treats the lowered vowels as "covered" (= retracted tongue root). Since only nasals can close syllables, there is probably some nasalization of these allophones.